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ABSTRACT

This investigation examined the acquisition of five complex English syntactic structures by Egyptian and Israeli adult learners at different levels of proficiency. Carol Chomsky's methodology, as adapted by d'Anglejan and Tucker, served to assess comprehension of these structures. The responses of the Egyptians and Israelis, which were similar to one another as well as to those of the French Canadians previously studied by d'Anglejan and Tucker, suggest that first and second language learners of English encounter some of the same difficulties. Their responses also suggest that the creative construction hypothesis can be applied to second as well as to first language acquisition. (Author)

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THE ACQUISITION OF COMPLEX ENGLISH STRUCTURES

BY ADULT NATIVE SPEAKERS OF ARABIC AND HEBREW¹

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Do adults who are acquiring complex syntactic structures in a second language encounter the same difficulties as children who are acquiring these structures in their mother tongue? Is the order of difficulty of such structures the same for adults in a second language as for children in their first language? Do adults learning a second language employ the same strategies as children learning their first? Answers to questions such as these, to which the research summarized in the present paper is addressed, may help us to learn more about the nature of language acquisition and syntactic complexity.

The research reported here is built upon the work of d'Anglejan and Tucker (1975). They adapted and extended Carol Chomsky's earlier investigations of English-speaking children's acquisition of complex English structures (1969, 1972) to French-speaking adults' acquisition of English. Chomsky had found that sentences containing certain structures that deviate from a widely established syntactic pattern of English tend to be misinterpreted by young children and to be acquired relatively late, between the ages of five and ten or even later. Her 1972 study suggested that five of these structures may be acquired in an invariant order although the age of acquisition may vary widely. D'Anglejan and Tucker examined the acquisition of these

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same five structures by French Canadian soldiers enrolled in English-language courses at two levels of proficiency. Their results indicated that many of the soldiers misinterpreted these structures in the same way that young English-speaking children do and that there was some similarity in the order of difficulty for child and adult learners. Furthermore, their data seemed to reveal interesting language learning strategies. Less advanced students tended to rely on semantic rather than on syntactic information when interpreting ambiguous sentences. Further, all respondents appeared to deal directly with the linguistic data of the target language. The investigators found no evidence that respondents attempted to translate or to map French language structures onto those of English, even when recourse to French might have provided cues to the interpretation of English structures. In no instance were language learning strategies observed which differed from those reported in the literature for child native speakers. The authors interpreted their findings as lending general support to the creative-construction hypothesis with respect to second-language acquisition (cf. Dulay and Burt, 1974; Ervin-Tripp, 1974).

The present study represents an attempt to extend the work of d'Anglejan and Tucker to the acquisition of English by adult learners in Egypt and in Israel. These settings are very different from that of Quebec. In the two middle-eastern contexts the primary opportunity to learn English is in formal classroom settings. In Quebec, at least in the Montreal metropolitan area, there is greater opportunity for learners to acquire the language in "natural" settings in interaction with native speakers. Attitudes towards English also differ. Whereas attitudes towards English tend to be very positive among learners in Cairo (El-Dash and Tucker, 1975) and in Israel (Cooper and Fishman, 1977), attitudes toward English are more ambivalent among French Canadian

learners who may appreciate its usefulness but who may also view its ascendancy in North America as a threat to French Canadian values and cohesiveness. Also, the contexts differ with respect to the learners' mother tongues. Whereas French and English are closely related, the Semitic languages have no genetic relationship to English. Thus, if we find the same patterns of response among Egyptian and Israeli adult learners as among French Canadian learners, we will be more firmly grounded in our attempts to infer universal properties of second language acquisition.

TEST MATERIALS

We used the same test materials devised by d'Anglejan and Tucker (1975). These consisted of four tasks.

Task 1. The first task was designed to test our respondents' ability to discriminate between sentences such as (a) John is eager to see and (b) John is easy to see. These two sentences have a similar surface structure, but the underlying relationships between the words are different. In sentence (a) John is the subject of eager and also the implicit subject of the complement verb see. This basic relationship is expressed by normal subject-verb word order. In sentence (b) the word order is misleading. John is actually the implicit object of the complement verb see. The implicit subject of the second verb is omitted in the surface structure of (b) and the listener must understand that it is "someone else." According to Chomsky (1969), the child who has not yet learned the difference between these superficially similar sentences incorrectly processes sentences such as (b) to mean "it is easy for John to see" rather than "it is easy for someone to see John."

Our test presented five type (a) sentences and five type (b) sentences arranged in random order (see Appendix 1). We used simple vocabulary in the sentences. The respondents' comprehension of each sentence was assessed by

their answer to a simple question, e.g., "Who will see?".

Task 2. The second task focused on the syntactic construction associated with the verb promise. The sentences (c) Don allowed Fred to stay and (d) Don promised Fred to stay have similar surface structures, but the underlying syntactic relationships differ. In (c) as in a large number of sentences involving verbs such as tell, persuade, want, order, or advise, the implicit subject of the complement verb is the noun immediately preceding it. This syntactic rule is known as the minimal distance principle. In (c) Fred is the subject of stay. The verb promise is an exception to this general rule because in this case the subject of the complement verb is not the immediately preceding noun but rather the subject of the main verb. Don is the subject of promised and also of the complement verb stay. In order to understand sentence (d) correctly, the learner must know that the general rule is not applicable and that he or she must use a specific rule of the verb promise. Chomsky found that many of her respondents misinterpreted sentences such as (d) even though they understood the meaning of promise as a lexical item.

To test our respondents' ability to distinguish the underlying syntactic structure associated with promise from the general pattern for other verbs sharing a similar surface structure, we used three test sentences employing the verb promise which we intermingled with seven control sentences involving verbs which follow the minimal distance principle. Respondents' comprehension of each sentence was assessed by their answers to a simple question, e.g., "Who will stay?". We included two additional ambiguous sentences which could be processed according to the general syntactic rule of sentence (c) or according to a specific rule analogous to that for sentence (d). These were sentence 1, The child asked the teacher to leave the room,

and sentence 12, The teacher asked the child to leave the room. The sentences for the second task are presented in Appendix 2.

Task 3. With the third task we again examined our respondents' understanding of a syntactic structure which violates a general syntactic rule. We focused on the contrast between ask and tell in sentences such as the following: (e) The girl asks the boy what to paint, and (f) The girl tells the boy what to paint. In (e) the implicit subject of paint is the girl, whereas in sentence (f), which follows the general rule for this type of sentence in English, the implicit subject of paint is the boy. Chomsky found that some children who had not yet learned that the verb ask is an exception to the general rule interpreted sentence (e) according to the general rule for (f) and gave it the meaning "the girl asks the boy what he is painting". Others appeared to interpret ask in sentences such as (e) as meaning tell. We were interested in finding out whether our second language learners had acquired the specific rule for ask or whether they misinterpreted such ask structures according to the more general rule for tell.

We used one of Chomsky's strategies in the study of the ask structures. This involved showing our respondents sets of pictures illustrating the two possible interpretations of each of six target sentences. One picture illustrated the correct interpretation; the other one, the incorrect interpretation. The respondent was shown both pictures simultaneously and then asked a question, e.g., "Which picture shows the girl asking the boy what to paint?". Three pairs of pictures and accompanying sentences and questions were used. Two forms of the task were employed so that each sentence occurred once with the verb ask and once with the verb tell. The order of presentation in one form was reserved in the other. Half the respondents received the task in one form and one half received it in the other form. The sentences are presented in

Appendix 3. The pictures used can be found in d'Anglejan and Tucker (1975).

Task 4. The fourth task tested comprehension of sentences involving the constructions and and although. We worked with sentences such as the following:

(g) Mother scolded Gloria for answering the phone, and I would have done the same, and (h) Mother scolded Gloria for answering the phone, although I would have done the same. In both these sentences, the listener must understand what the speaker would actually have done. There are two logical possibilities. I would have done the same might mean "scolded Gloria" or it might mean "answered the phone." In (g) the conjunction and serves as a coordinator and I would have done the same refers to the first verb phrase in the sentence (scolded Gloria). In (h) where the second clause is introduced by although, a subordinator, I would have done the same refers to the second verb phrase (answered the phone).

Six experimental sentences were used, three with and and three with although. Respondents' understanding of each sentence was tested by their response to the question, "What would I have done?". We used two forms of the task so that the sentences which involved and in one form appeared with although in the other. Half the respondents received one form of the task and the other half received the other form. The sentences used are presented in Appendix 4.

RESPONDENTS

Seven groups of respondents participated in the present study, four in Cairo and three in Israel.

Cairo

The first two groups of Egyptians were enrolled in intensive two-semester English language courses at the English Language Institute of the American University in Cairo in order to prepare themselves for admission as full-time undergraduates at the University. The students had previously taken

the Michigan Test of English Language Proficiency. Students in the first group had received scores from 63 to 69, whereas students in the second group had received scores from 74 to 81. (A score of 85 was required for admission as a full-time undergraduate.) Thus the first group was less advanced with respect to English proficiency than was the second. There were 18 students in each of these two groups. All were Egyptian and native speakers of Arabic, with the average age in each group being slightly over 18. All students had completed 12 years of formal schooling.

In the less advanced group (group 1), ten were male and eight female. About three fourths had studied with English as the medium of instruction at school and about one fourth had studied with French. Those who had studied with English as a medium of instruction had done so for an average of about eight years.

In the more advanced group (group 2), all the students but one were female. A smaller percentage (about 60%) reported English as a medium of instruction than in the less advanced group. Of those who had not studied with English as a medium of instruction, three had studied in French, three in German, and one in Arabic. Those who had studied with English as a medium of instruction reported doing so for an average of four and a half years, compared to about eight years for the less advanced group. One can only speculate as to whether the finding of less exposure to English as a medium of instruction in the more advanced group reflects superior ability on the part of the students or better instruction.

All students in groups 1 and 2 claimed that school study had helped them to learn English and that knowledge of English was necessary in their academic field. One can assume, therefore, that their motivation to learn

English was fairly high.

The other two groups of Egyptian students were composed of adults enrolled in evening courses in English as a foreign language at the Division of Public Service of the American University in Cairo. There were 15 students in each of these two groups. Their motives for studying English varied. Some were university students who needed English for academic purposes, others needed it in their jobs, and still others studied for the pleasure of it. We assumed that their motivation was fairly high. Transportation poses a big problem in Cairo and commuting to the center of town, where the University is located, three evenings a week for an hour and a half class could not be considered a pleasant undertaking.

The night school groups (groups 3 and 4) differed with respect to their English proficiency. Group 3 was considerably less advanced than group 4 and was in fact the least proficient of the seven groups tested in this study. Both groups were considerably older, on the average, than groups 1 and 2, the average age was 31 in group 3 and 28.5 in group 4. With the exception of one student, all respondents in groups 3 and 4 had completed 12 years of formal schooling, and all, except for one, had gone to Arabic-medium schools. This is in contrast to groups 1 and 2 in which a majority had studied via the medium of a foreign language. The less advanced night school group (group 3) had studied English for an average of about five and a half years whereas the more advanced night school group (group 4) had studied English for an average of about nine years. In the less advanced group there were 5 males, 10 females. In the more advanced group there were 12 males, 3 females. Thus the night school groups also differed from the English Language Institute groups with respect to the relationship between sex composition and English proficiency. For the night school respondents, there was a preponderance of men in the more advanced group and a preponderance

of women in the less advanced group. Such between-group differences underscore whatever similarities can be found in their response to our four tasks.

Israel

The Israeli students formed three groups (groups 5, 6, and 7).

Groups 5 and 6 were students in their eleventh (junior) year of a high school located in Jerusalem. This school draws students from a variety of backgrounds, but the bulk of its students come from the lower middle class. The students in groups 5 and 6 were distinguished by their ability in English, with group 5 being less advanced than group 6. The students in group 5 came from a single lower-level English class and the students in group 6 came from two higher-level courses. Students had been assigned to their classes on the basis of their previous grades in English and on the basis of their teachers' assessment of their ability to pass the State matriculation examination in English as a foreign language. Whereas most of the students in group 6 were preparing to sit for this exam (and were thought likely to pass it), most of the students in group 5 would not be prepared to take this exam at the end of their high school studies.

From the single lower-level English class in which the students in group 5 were enrolled and from the two higher-level English classes in which the students in group 6 were enrolled, we studied all students whose first language was Hebrew. This gave us 19 students in group 5 and 17 students in group 6. They were naturally slightly younger than the Egyptian university students in groups 1 and 2, the Jerusalem students' average age being about 17. They had studied English since the fourth or fifth grade so that they were currently in their seventh or eighth year of instruction in English as a foreign language. Unlike their Egyptian counterparts at the English Language Institute, who had studied school subjects through the medium of foreign

languages, chiefly English, the Jerusalem students had all gone to Hebrew-medium schools. The Jerusalem students, however, did display a similar relationship between sex composition and English proficiency, with more females than males in the more advanced group (14 females, 3 males). The less advanced group had about the same number of males and females.

The third group of Israeli students (group 7) were enrolled in a preparatory program at Tel-Aviv University. This program prepares high school graduates for entrance to the university. Most of these students had completed army service. Their high school preparation, however, was not adequate to permit them to enter the university directly after leaving the army. There were 14 students in this group, most of whom (10) were male. All were native speakers of Hebrew.

METHOD

The four tasks were administered individually to the Egyptian respondents and as group paper-and-pencil tests to the Israeli respondents. For the Egyptian respondents, the examiner (Waterbury) read the stimulus sentences followed by the questions. A sentence was repeated if necessary. There was no time limit for answering. Both the Egyptian and Israeli respondents were told they could ask for translations of isolated vocabulary items if necessary, but that the whole sentence would not be translated.

Because some of the respondents in groups 1 and 2 had expressed difficulty remembering names in the test sentences, the examiner, when testing the students in groups 3 and 4, decided to substitute Arabic names when she thought the respondent might have problems. This did not seem to make any difference. Those who could process the sentences appeared to have been able to do so with English or Arabic names, and those who could not

did not appear to be helped by the change.

To probe for the influence of interlingual influence on the students' comprehension, the night school students (groups 3 and 4) were also asked to translate a small number of sentences into Arabic (four from task 1, four from task 2, two from task 3, and three from task 4). Half the students performed the translations before the comprehension task and half after. Because of the exploratory nature of these data and because of the small number of sentences and students involved, the results from the translation task are not presented here.

RESULTS

In order to make comparison with d'Anglejan and Tucker's (1975) data easier, we have included their results in our tables. Their "beginning" and "advanced" groups are shown as groups 8 and 9 respectively.

Task 1 (easy/eager to see)

As can be seen from Table 1, all the Egyptian and Israeli groups readily interpreted the control sentences, the highest error rate being only 15%. The target structure, however, was relatively difficult. Substantial proportions of respondents, in other words, misinterpreted sentences of the form Ann is fun to visit, assigning the subject of the sentence as the subject of the complement verb, the same error made by young English-speaking children and by many of d'Anglejan and Tucker's adult respondents as well.

Insert Table 1 about here

Task 2 (promise/tell)

Unlike the easy to see structure, which proved relatively difficult

to understand, the promise structure appeared to have been learned by most respondents. This can be seen in Table 2. The highest error rate was 38%, found for the less advanced night school group in Cairo (group 3). While most of the respondents seemed to understand the promise structure, it should be noted that the error rates for promise were higher than for the control sentences for eight of the nine groups.

Insert Table 2 about here

The students' responses to the two ambiguous sentences were similar to those found by d'Anglejan and Tucker. There was close agreement among the groups that sentence 12, The teacher asked the child to leave the room, meant that the child would leave. For sentence 1 (The child asked the teacher to leave the room) however, where there was a conflict between common sense experience and the minimum distance principle, the less advanced groups were less likely than their more advanced counterparts to rely on the minimum distance principle. Thus, for example, group 1 said twice as often as group 2, in response to sentence 1 that the child would leave the room. As in d'Anglejan and Tucker's study, then, our findings support Macnamara's (1973) claim that second-language learners, like young children, use context as a cue to language rather than language as a cue to context. Our findings with respect to the ambiguous sentences are presented in Table 3.

Insert Table 3 about here

Task 3 (ask/tell what to do)

In only three groups were there substantial differences between the

error rates for the experimental and control sentences, with the less advanced Cairo night school students (group 3) and the less advanced Israeli students (groups 5 and 7) showing considerably greater difficulty with the target (ask) than with the control sentences. It should be noted that this was also true for the less advanced French subjects. In the other groups, the error rates for the experimental and control sentences were about the same. These results are found in Table 4.

Insert Table 4 about here

Task 4 (and/although)

Whereas the and structure was of only moderate difficulty for most of our groups, the although structure proved to be the most difficult of the five structures for four of our seven groups (Arabic groups 1 and 2, Hebrew groups 5 and 6) and second most difficult for two others (Arabic group 4 and Hebrew group 7). Our data may actually overstate our respondents' knowledge of although because, as Chomsky (1972) points out, lack of knowledge might prompt a learner to choose the correct alternative. In order to interpret correctly sentences with the easy to see, promise, ask, and and structures, the listener must know how to fill in a missing noun phrase (for easy to see, promise, and ask) or verb phrase (for and). For each of these structures, the listener must fill in the deletion by violating a very general rule in English. According to this rule, the missing item is the nearest preceding candidate in the sentence. For easy to see, promise, ask, and and, the listener must know that this principle does not apply. According to Chomsky, the difficulty of such structures is caused by the difficulty of freeing oneself from a "deeply entrenched constraint" (1972:20), a constraint which is learned early. A listener who

has not learned the although structure could nonetheless correctly interpret it by applying the general rule. Application of the general rule, in other words, which would cause listeners to misinterpret sentences with easy to see, promise, ask, and and, would cause listeners to interpret correctly sentences with although. Thus in our study, students who had learned neither the and nor the although structure would tend to answer all of the former incorrectly and all of the latter correctly by choosing the nearest candidate item in each case. However, if students have learned to interpret the and structures correctly, they have learned to violate the more general principle and thus their responses to although do not necessarily reflect their reliance on that principle. If we score although responses as correct only if the student has answered all the and structures correctly, we obtain higher error rates in all cases except for Hebrew group 5. The results for and, although, and although adjusted according to the and responses are presented in Table 5.

Insert Table 5 about here

While one might argue that the raw although scores overestimate our respondents' knowledge, one can also argue that the adjusted score is not a good measure either. Although may be a problematic structure from the investigator's point of view. This may be seen by the responses of d'Anglejan and Tucker's native English speakers, whose error rate for although was 66%. In contrast, their error rate for and was only 11%. Similarly, Bernstein (1978) found that Hebrew translations of d'Anglejan and Tucker's although sentences were correctly interpreted only about half the time by native Hebrew speaking Israeli university students, whereas their comprehension of the translated and sentences was close to perfect. (The English

and/although contrast is perfectly paralleled in Hebrew, with neither contrast reflected in surface structure.) In Chomsky's own work (1972) only 4 of 36 children answered all the and and although structures correctly. Of course, one might argue that there are some speakers who never learn certain syntactic structures, although few would claim that the percentage of such speakers is as high as the percentage of native speakers in d'Anglejan and Tucker's and in Bernstein's studies who did not understand the although sentences. Alternatively, one can argue that our grammatical description of although is wrong, and that our sentences with although are in fact syntactically ambiguous. Or one might argue that the sentences are unambiguous but that we have used a faulty means for assessing comprehension of them. Thus our results for although ought to be interpreted with caution.

Order of Difficulty

In her 1972 study, Chomsky found a striking uniformity with respect to the order in which her five structures appeared to have been learned. She posited five stages of acquisition: (1) none of the structures, (2) easy to see only, (3) easy to see and promise only, (4) easy to see, promise, ask, and and only, and (5) all five structures including although.

Our error rates, summarized for the nine groups of d'Anglejan and Tucker and the present study in Table 6, show both similarities and differences to Chomsky's 1972 data. Unlike the children in her study, our respondents found the easy to see structure quite difficult. It was the second most difficult structure for six of our nine groups and it was the structure which distinguished most sharply the more advanced groups from their less advanced counterparts. Thus, for example, the difficulty between Hebrew groups 6 and 7 on this structure was 53 percentage points,

whereas the next largest difference for these two groups (for ask) was only 11 percentage points. Chomsky noted that the data for her 1969 study did not show easy to see to be the first structure learned, but she thought that the experimental technique used in her first study might have been at fault. She was unwilling, however, to suggest that children universally learn easy to see first, "My guess is that the distinction between Stages 3 and 4 would hold up under additional testing, since it has a good theoretical base and was observed here for the second time. The other stages may or may not be borne out by further experimentation" (1972:32). Inasmuch as and and although were not studied in her 1969 research, what was common to both of her studies was that promise appeared to be acquired before ask. Like the children in both of her studies, our respondents found promise easier than ask, and like the children in her 1972 study, our respondents found and easier than although and although the most difficult of the five structures.

Insert Table 6 about here

Our groups showed a striking similarity to one another with respect to the order of difficulty of easy to see, promise, and ask. For each of nine groups, promise was easiest and easy to see hardest. However, we cannot claim that the order of difficulty found in Table 6 necessarily represents the order of acquisition of these structures because the tasks themselves, independent of the structures they embodied, were probably of unequal difficulty. Thus the ask task required visual discrimination between pairs of pictures whereas the other tasks employed verbal stimuli only. Similarly, the and and although task may have imposed a greater burden on short-term memory than did the other tasks, even though respondents could ask for

repetitions (or, in the case of the Israelis, could reread) the sentences.

If we look at the error rates for the control structures used in connection with easy to see, promise, and ask, summarized in Table 7, we can see that the control structure for easy to see was the easiest for all groups (although the target structure was among the hardest) and that the control structure for ask was hardest for eight of the nine groups. Thus ask may have been more difficult than promise for our groups simply because the task used to test the former may have been more difficult than the task used to test the latter. If we compensate for this difference in difficulty by dividing the target structure error rates by the control structure error rates, for the easy to see, promise, and ask structures, we find that easy to see was still the most difficult of the three structures for all the groups. However, there was no consistent order of difficulty for promise and ask. In five of the groups there was little or no difference between the corrected promise and ask error rates. In two groups the corrected error rates were substantially higher for promise than for ask (Arabic groups 1 and 4), and in two groups the corrected error rates were substantially higher for ask than for promise (Hebrew group 7 and French Canadian group 8). Perhaps this inconsistency can be attributed to the fragility of our ask task, which consisted of only three items. Or, since most of the differences between the corrected promise and ask error rates were much smaller than the differences between the error rates for those two structures on the one hand and the error rates for easy to see on the other, perhaps we can interpret our findings as indicating that promise and ask were learned by our students at about the same time. In any case, most of our students did not appear to have learned promise before ask if we use the corrected error rates as evidence for sequence

of acquisition. If we restrict our discussion of order of difficulty only to those structures which were tested in the same manner, we can compare easy to see with promise and and with although. Inasmuch as our respondents found promise easier than easy to see, the only clear parallel between our results and those of Chomsky's 1972 data was that and was simpler than although. Table 8 presents the corrected error rates.

Insert Tables 7 and 8 about here

To what extent can we explain our groups' uniformly greater difficulty with easy to see than with promise and ask on the basis of structural similarities and dissimilarities between English and the respondents' mother tongues? In Arabic, Hebrew, and French, as in English, the distinction between promise and tell and the distinction between ask what to do and tell what to do are either not marked by surface structure differences at all or marked by differences no greater than a difference between prepositions. Thus for example in Hebrew there is no surface structure difference between He promised her to go (hu hiftiach la lavo) and He told her to go (hu amar la lavo) and the difference between He told her what to do (hu amar la ma laasot) and He asked her what to do (hu shaal ota ma laasot) is marked by a difference in a preposition only. Translation of the promise/tell and ask/tell what to do structures can be made from one language to the other more or less on a word for word basis.

The easy to see/eager to see distinction, however, which is not signalled by a surface structure difference in English, is marked by other than prepositional differences in Arabic and Hebrew surface structure. For example, an English sentence such as The pyramids are easy to see would be translated into Arabic as The pyramids are easy to be seen or It is easy to see the

pyramids, whereas a sentence such as Mary is anxious to go has a similar surface structure in Arabic and English. Thus, one might argue that easy to see was most difficult for our Egyptian and Israeli respondents because that structure contrasted most sharply with the corresponding structures in Arabic and Hebrew.

However, correspondences cannot be a sufficient explanation for the greater difficulty of easy to see. First of all, if such correspondences were a sufficient explanation, we would not expect to find that easy to see was as difficult for the French Canadian respondents as for the Egyptian and Israeli respondents. In French the easy/eager distinction is signalled by a difference in a preposition only. Where the subject of the first verb is also the subject of the complement verb, the preposition de precedes the complement verb, e.g., John is sad to leave = Jean est triste de partir. In sentences in which "someone else" is the subject of the complement verb, the preposition à precedes the complement verb, e.g., The president is difficult to see = Le président est difficile à voir. In French the easy/eager distinction is signalled by no other difference in surface structure. If structural similarity or dissimilarity were a sufficient explanation for our respondents' greater difficulty with easy to see, we would expect the French speakers to encounter less difficulty than the other groups with easy to see because of the greater similarity between the English and French structures than between the English structure on the one hand and the Arabic and Hebrew structures on the other. This was not the case, however, either in absolute terms or as a ratio to the other structures. The relationship between the easy to see error rate and the rates for promise and ask can be found in Table 9.

Insert Table 9

Furthermore, if lack of correspondence between the structures of Arabic and Hebrew and those of the target language constituted a sufficient explanation for the Egyptians' and Israelis' greater difficulty with easy to see, how can we explain the fact that the promise and ask structures were usually more difficult than their control structures, even though both the target and the control structures can be more or less translated word for word from English to the respondents' mother tongues? If between-language similarity did not improve comprehension then between-language dissimilarity may not have impaired it.

CONCLUSION

Our Egyptian and Israeli students not only performed similarly to one another but also to the two French Canadian groups previously studied by d'Anglejan and Tucker. The respondents frequently interpreted complex English structures in a fashion similar to that of children learning English natively and this was so even when there was no difference between the structures in English and the mother tongue. That similarity between structures in English and the mother tongue did not appear to help our students to comprehend the English structures suggests that they grappled with the English material directly, without recourse to their first language. Their errors of comprehension and the less advanced students' greater reliance on contextual than on syntactic cues, as compared to the more advanced students, also suggest that the processes of first and second language acquisition are similar and that the creative construction hypothesis can be applied to both. The striking correspondences which were found in three quite different settings give additional support to these inferences.

Ervin-Tripp (1974) has pointed out that interference from the mother tongue in second language learning does not invalidate the creative construction hypothesis with respect to second language acquisition because children also make use of their current linguistic knowledge in the course of language development. Nonetheless, it would be of interest to know more about the role of interference in second language acquisition. To what extent, for example, was lack of parallelism between English and the mother tongue responsible for our respondents' difficulty with easy to see? Can lack of parallelism impede acquisition where parallelism does not facilitate it? To what extent is there an invariant order of acquisition, within and between groups? To answer these questions with respect to the acquisition of

complex syntactic structures requires that we find a way to identify the effects of differences in difficulty imposed by various elicitation or assessment devices including the effects of using different sets of stimulus sentences. It is also likely that we will need to carry out longitudinal studies. Both of these tasks are well worth undertaking.

NOTES

1. This research was conducted while Waterbury was a graduate student at the American University in Cairo and Tucker was employed as a Project Specialist with the Ford Foundation in Cairo, on leave from McGill University. The authors are grateful to Alison d'Anglejan for her comments on an earlier draft of this paper.

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TABLE 1

Proportions of Error for Task 1: Easy to See/Eager to See

Structure	Group								
	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
Target	50	40	95	36	47	23	76	73	14
Control	01	00	01	00	09	15	00	01	02

TABLE 2

Proportions of Error for Task 2: Promise/Tell

Structure	Group								
	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
Target	13	07	38	13	12	06	07	25	04
Control	02	05	27	04	07	05	03	19	05

TABLE 3

Proportions of Child Responses

Sentence	Group								
	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
1. The child asked the teacher...	22	11	73	53	53	23	29	80	65
12. The teacher asked the child.....	100	100	80	100	89	100	100	90	100

TABLE 4

Proportions of Error for Task 3: Ask/Tell

Structure	Group								
	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
Target	30	24	68	26	39	18	29	50	13
Control	37	17	36	30	15	18	05	17	13

TABLE 5

Proportions of Error for Task 4: And/Although

Structure	Group								
	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
And	27	22	42	51	49	25	21	55	08
Although	65	61	55	42	91	69	59	47	78
Although adjusted	81	78	73	78	78	74	67		

TABLE 6

Proportions of Error for Five Test Structures

Structure	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
Easy to see	50	40	95	36	47	23	76	73	14
Promise	13	07	38	13	12	06	07	25	04
Ask	30	24	68	26	39	18	29	50	13
And	27	22	42	51	49	25	21	55	08
Although	65	61	55	42	91	69	59	47	78

TABLE 7

Proportions of Error for Three Control Structures

Structure	Group								
	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
Easy/eager	01	00	01	00	09	15	00	01	02
Promise/Tell	02	05	27	04	07	05	03	19	05
Ask/Tell	37	17	36	30	15	18	05	17	13

TABLE 8

Corrected Error Rates for Easy to See, Promise, and Ask¹

Structure	Group								
	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
Easy to see	50.0	40.0	95.0	36.0	5.2	1.5	76.0	73.0	7.0
Promise	6.5	1.4	1.4	3.3	1.7	1.2	2.3	1.3	.8
Ask	.8	1.4	1.9	.9	2.6	1.0	5.8	2.9	1.0

¹ Target error rate divided by control error rate.

TABLE 9

Ratios of Easy to See Error Rates to Promise and Ask Error Rates

Structure	Group								
	Arabic				Hebrew			French	
	1	2	3	4	5	6	7	8	9
Promise	3.8	5.7	2.5	2.8	3.9	3.8	10.9	2.9	3.5
Ask	1.7	1.7	1.4	1.4	1.2	1.3	2.6	1.5	1.1

APPENDIX I

Sentences Used for Task 1: Easy/Eager to See

1. Mary is anxious to go. Who will go?
 2. The salesman is happy to oblige. Who will oblige?
 3. The President is difficult to see. Who will see?
 4. Peter is pleased to stay. Who will stay?
 5. The scientist is interesting to interview. Who is doing the interviewing?
 6. Christine is easy to influence. Who is doing the influencing?
 7. John is sad to leave. Who will leave?
 8. The Russian is hard to understand. Who does not understand?
 9. Jack is eager to return. Who will return?
 10. Anne is fun to visit. Who will visit?
-

APPENDIX 2

Sentences Used for Task 2: Promise/Tell

-
1. The child asked the teacher to leave the room. Who should leave the room?
 2. The man told Donald to open his window. Who will open the window?
 3. Fred promised Harry to leave quickly. Who will leave?
 4. Bill persuaded Jack to read his letter. Who will read the letter?
 5. Andy promised him to lend him his bicycle. Who does the bicycle belong to?
 6. Donald warned Henry to drive carefully. Who should drive carefully?
 7. Fred advised Tom to leave quickly. Who should leave?
 8. Mike asked Sam to lend him his car. Who does the car belong to?
 9. Jim promised Peter to read his letter. Who will read the letter?
 10. Joe ordered Bill to come quickly. Who will come?
 11. Don allowed Fred to stay. Who will stay?
 12. The teacher asked the child to leave the room. Who should leave the room?
-

APPENDIX 3

Sentences Used for Task 3: Ask/Tell

-
1. Which picture shows the girl asking/telling the boy what to paint?
 2. Which picture shows the boy asking/telling the girl what shoes to wear?
 3. In which picture did the girl ask/tell the boy what glass to choose?
-

APPENDIX 4

Sentences Used for Task 4: And/Although

-
1. Anne scolded Gloria for answering the phone, and I would have done the same.
What would I have done?
 2. The lady fired her chauffeur for driving fast, although I would have done the same.
What would I have done?
 3. Mary criticized her friend for arriving late, although I would have done the same.
What would I have done?
 4. The General blamed the soldier for risking the boy's life, and I would have done the same.
What would I have done?
 5. Bill hit the man for taking the money, although I would have done the same.
What would I have done?
 6. The chief rewarded the fireman for entering our building, and I would have done the same.
What would I have done?
-